Further in accordance with a preferred embodiment of the present invention the modulating includes creating a plurality of sub-channels on the at least one wavelength of the carrier.

Still further in accordance with a preferred embodiment of the present invention the creating includes creating a plurality of sub-channels that carry different amounts of optical information or that have different bandwidth sizes.

Additionally in accordance with a preferred embodiment of the present invention the modulating includes controlling allocation of at least one of bandwidth size and optical information capacity to at least one user.

Further in accordance with a preferred embodiment of the present invention the modulating includes operating at a data rate of around 1 GHz, for example, or any other value that may be flexible and depend on the individual needs of a user or customer

Still further in accordance with a preferred embodiment of the present invention the method includes frequency up-converting, in the optical domain, optical information emanating from a laser channel of the carrier.

In accordance with a preferred embodiment of the present invention the optical information may be up-converted with a frequency different than a frequency of the carrier.

Further in accordance with a preferred embodiment of the present invention the optical information may be up-converted with a carrier frequency uniquely associated with an address of a receiver of the optical information.

Still further in accordance with a preferred embodiment of the present invention the up-converting may be carried out with a resonant electro-optical modulator.

In accordance with a preferred embodiment of the present invention a sub-channel may be added or subtracted to the carrier while remaining in the optical domain.

Further in accordance with a preferred embodiment of the present invention the method includes frequency down-converting, in the optical domain, the up-converted optical information.

Still further in accordance with a preferred embodiment of the present invention the down-converting includes down-converting with a resonant electro-optical modulator.